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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/355,623	10/05/1999	OLLI PIIRAINEN	PM262375	6720

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EXAMINER
TRAN, TUAN A

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 04/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/355,623	PIIRAINEN, OLLI	
	Examiner	Art Unit	
	Tuan A Tran	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-11, 17-27 and 29-32are rejected under 35 U.S.C. 102(e) as being anticipated by Scott (6,094,421).

Regarding claim 1, Scott discloses a transmission method and apparatus used in a radio system that comprises at least one base station 304 (See fig. 3A) and a number of subscriber terminals 302 at least two of which transmit access bursts to one and the same base station, the access burst activating between a subscriber terminal and a base station a connection that is established by a signal that is of a certain frequency and is sent in timeslots, characterized in that when the subscriber terminal is

commanded to send the base station a signal that employs a timeslot and frequency that used by another subscriber terminal, the subscriber terminal is sent a command to adjust the transmission moment of signal so that the base station receives the transmitted signals at different moments (See figs. 5A, 5C, 8A, 9 and col. 3. lines 29-47, col. 4 lines 51-65, col. 9 lines 6-10, col. 12 lines 14-35).

Regarding claim 2, Scott further discloses the transmission moment is adjusted before an actual connection is established (See fig. 5B and col.11 lines 1-8, col. 12 lines 14-34).

Regarding claims 3-4, Scott further discloses the command is sent to delay or advance the transmission moment of the signal (See fig. 5B and col. 11 lines 1-8).

Regarding claims 5-6, Scott further discloses the command is sent to advance or delay the transmission moment at most an 11-bit period (See figs. 5B, 10A and col. 7 line 66 to col. 8 line 51, col.11 lines 51-67).

Regarding claim 7, Scott further discloses the transmission moment of the signal is adjusted by at most the tail bits at the beginning of the burst and the guard period at the end of the burst (See fig. 10A and col.7 line 66 to col. 8 line 51 and col. 11 lines 51-67).

Regarding claim 8, Scott further discloses the impulse responses are formed from the signals received by the base station being defined to have a length of a minimum of substantially 3 bits (See fig. 12A and col. 45 line 22 to col. 46 line 2).

Regarding claim 9, Scott further discloses at least two signals of the same frequency are separated from each other, the signals have been received by the base

station from one and the same timeslot (See fig. 5A, 10B and col. 3 lines 29-47, col. 7 lines 39-52).

Regarding claim 10, Scott further discloses the signals are separated by means of training sequences of signals received at different moments (See fig. 10B).

Regarding claim 11, Scott further discloses the signals received by the base station are correlated and on the basic of correlation, the signal with the best quality and for example the highest energy is selected, and the signal is then used as a connection-establishing signal (See col. 12 lines 14-24).

Regarding claim13, Scott further discloses the subscriber is commanded to change the signal transmission frequency, if the signal transmitted by the subscriber terminal interferes with a signal transmitted by another subscriber terminal (See col. 12 lines 24-34).

Regarding claim 14, Scott further discloses the frequencies used in different signals are predetermined (See col.7 line 24-52).

Regarding claim 15, Scott further discloses the signals are transmitted by the Time Division Multiple Access (TDMA) method (See fig. 5A and col. 8 lines 30-35).

Claims 17-27 and 29-32 are rejected for the same reasons as set forth in claim 1-11 and 13-15, as apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott (6,094,421) in view of Bjork et al. (6,084,862).

Regarding claim 12, Scott discloses as cited in claim 1. However, Scott does not explicitly mention that the signals received by the base station are correlated by means of a training sequence, the signal formed on the basic of the correlation are placed in windows, and the summed energies of the impulse responses of the signals placed in the window are compared. Bjork discloses signals received by the base station are correlated by means of a training sequence, the signal formed on the basic of the correlation are placed in windows, and the summed energies of the impulse responses of the signals placed in the window are compared (See figs. 2, 8 and col. 3 lines 30-50, col. 5 line 48 to col. 6 line 13, col. 6 lines 45-56, col. 9 line 18 to col. 12 line 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Bjork in the method and apparatus as disclosed by Scott for the advantage of making accurate measurements of time dispersion.

3. Claims 16 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott (6,094,421).

Regarding claim 16, Scott discloses as cited in claim 1. Scott further discloses that the method is suited for cellular communication system utilized TDD/TDMA (See

fig. 3A and col. 5 lines 24-30). However, Scott does not mention that the method is particularly suited for the radio system, for example, in offices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a method as disclosed by Scott in the radio system in offices for the advantage of extending the application of the method into various environments.

Claim 33 is rejected for the same reasons as set forth in claim 16, as apparatus.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

   - Abu-Dayya U.S. Patent 5,838,742 discloses diversity path co-channel interference reduction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan Tran** whose telephone number is **(703) 605-4255**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Daniel Hunter**, can be reached at **(703) 308-6732**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Tuan Tran

AU2684

DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
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